The once robust San Joaquin River and its tributaries have been developed. Those whose lives depended on a healthy river system did not recognize the symptoms of incompatible uses. The river's failing health has affected the users. The San Joaquin River is no longer able to satisfy the many demands placed on it. Further deterioration of the river system will affect all those who depend on it. New approaches are needed to help maintain the health of the river system while meeting the demands.

Fish and waterfowl were once abundant along the San Joaquin. People played and fished along her banks. Water from the San Joaquin teamed with the fertile soil to produce bountiful and diverse crops, which attracted more farmers and more cultivation. Dams were built to catch winter rainfall and spring snowmelt to provide more water for hydroelectric power and for farms and towns. With the dams came lakes, and with the lakes came residents and tourists to play in them. The tourists and crops brought money, which brought further development.

As towns became cities and agriculture expanded, more water was appropriated and used than nature could replace, even with the help of large water development projects. Surface and ground water levels dwindled. Native willows and cottonwoods were replaced by brush and introduced weeds that do not support native wildlife. Sluggish flows and infrequent channel-forming floods now deposit sediment, filling the channels, forming sandbars, and reducing the flood-carrying capacity of the system. Fish now have trouble navigating the shallow water to spawn and return to the ocean. At times water levels are too low for pumps to work or for people to play.

Valley soils that produce such outstanding crops leach salt and other minerals. As irrigation water is drained from the fields, these minerals, along with pesticides, are discharged to the diminished rivers. Water quality is further degraded by such things as urban runoff and discharge from sewage treatment plants along the system.

The San Joaquin has many ailments. Treating one can expose others. This San Joaquin River Management Plan is an initial prescription to begin treating the ills. Those who enjoy the benefits of the San Joaquin River and its tributaries must join forces to bring the system back to health and sustain the many important uses.

San Joaquin River System

The study area for San Joaquin River Management Plan is shown in Figure 1. The area is the San Joaquin River from Friant Dam downstream through the northern boundary of South Delta Water Agency just south of Victoria Canal and all other tributaries of the San Joaquin River up to the first major dam. The major tributaries are the Merced, Tuolumne, and Stanislaus rivers. This area also includes the North Fork Kings River from the southerly boundary of Reclamation District 1606 at McMullin Grade to Mendota Dam. The study area was divided into ten study reaches (shown on Figure 1) based on similarities in hydrology and environmental conditions. The reaches are:

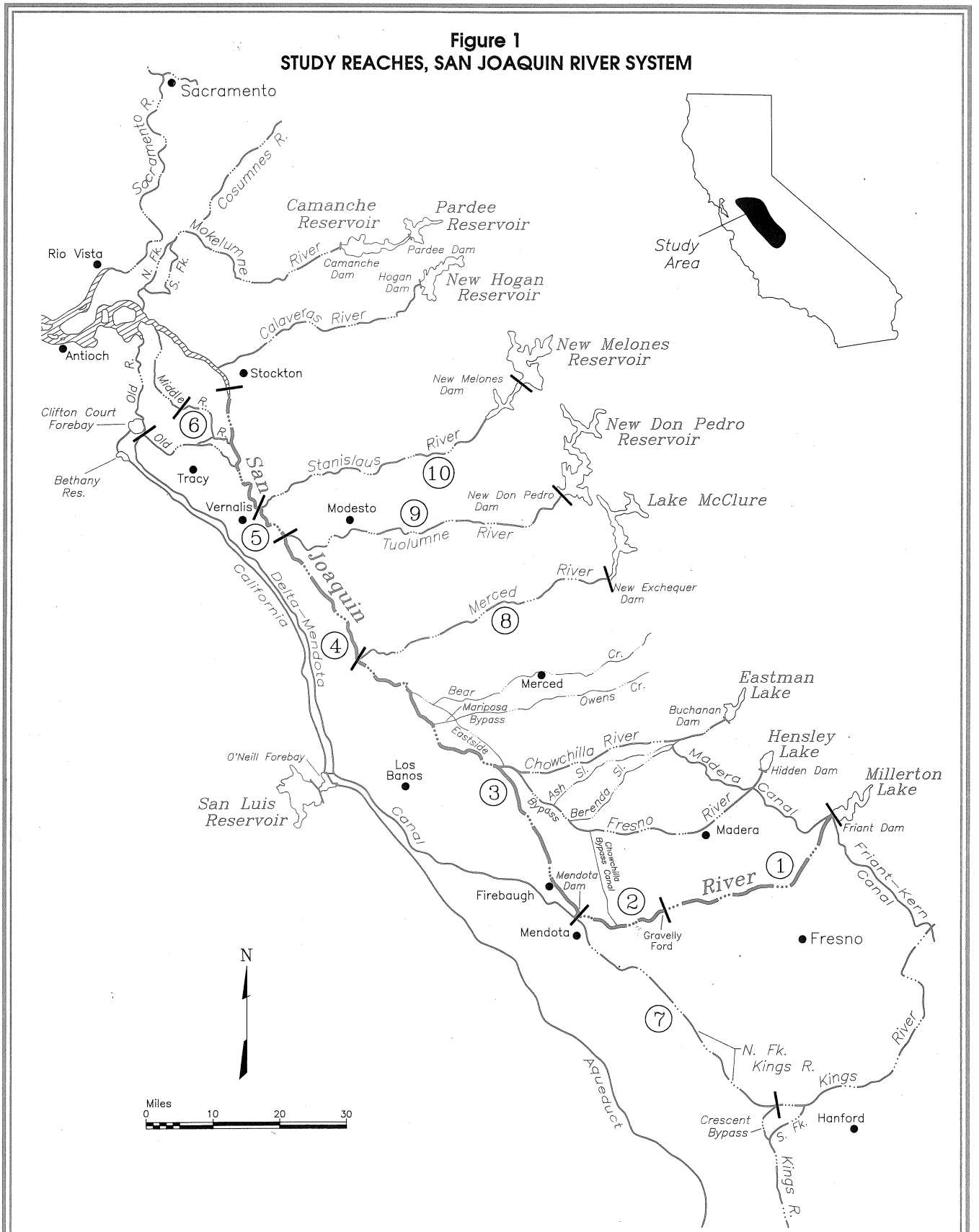
① Friant Dam to just upstream of Gravelly Ford
② Gravelly Ford to just upstream of Mendota Pool
③ Mendota Pool to just upstream of mouth of Merced River
④ Mouth of Merced River to just upstream of mouth of Tuolumne River
⑤ Mouth of Tuolumne River to just upstream of mouth of Stanislaus River
⑥ Mouth of Stanislaus River to northern boundary of South Delta Water Agency
⑦ North Fork Kings River
⑧ Merced River from mouth upstream to New Exchequer Dam
⑨ Tuolumne River from mouth upstream to New Don Pedro Dam
⑩ Stanislaus River from mouth upstream to New Melones Dam

Eight major streams and twenty-two minor streams flow into the San Joaquin River. All of the major streams have their headwaters in the Sierra Nevada. Most drain mountainous areas ranging from a few hundred feet above sea level in the foothills to nearly 14,000 feet at the crest of the Sierra. The San Joaquin River Basin is 290 miles long and averages about 130 miles wide. It covers about 32,000 square miles, or one-fifth of California. The San Joaquin River flows west, then north to the Sacramento-San Joaquin Delta.

Friant Dam, on the San Joaquin River near Fresno, was completed in 1944 as part of the federal Central Valley Project. Construction of other Friant Division facilities was substantially completed in 1951. Friant is hydrologically separate from other Central Valley Project supplies. Runoff is collected in Millerton Lake and delivered to contractors through the San Joaquin River, Madera Canal, and Friant-Kern Canal.

The Merced River flows west through Yosemite National Park into the San Joaquin Valley and joins the San Joaquin River between Merced and Modesto. Flows in the lower Merced River are regulated by New Exchequer Dam, McSwain Dam, Merced Falls Dam, and Crocker-Huffman Dam. Water supplies from storage are controlled by Merced Irrigation District.

Figure 1
STUDY REACHES, SAN JOAQUIN RIVER SYSTEM



The Tuolumne River drains a wide expanse of mountains sloping west from the crest of the Sierra Nevada between the Merced watershed on the south and the Stanislaus watershed on the north. It flows through Yosemite National Park and Stanislaus National Forest and joins the San Joaquin River 10 miles west of Modesto. Hetch Hetchy, Cherry, and Eleanor reservoirs, on the mainstem Tuolumne, provide water and power for San Francisco and other peninsula cities. Downstream on the Tuolumne, Turlock and Modesto irrigation districts jointly built New Don Pedro Reservoir to provide water and power to their service areas. Other reservoirs on the Tuolumne River include La Grange Reservoir, Dawson Lake, Modesto Reservoir, and Turlock Lake.

The North, Middle, and South Forks form the mainstem of the Stanislaus River 35 miles above its confluence with the San Joaquin River. The Stanislaus is regulated by New Melones Dam, operated by the U.S. Bureau of Reclamation. Below New Melones Dam are Goodwin Dam, which stores water for use by South San Joaquin and Oakdale irrigation districts, and Tullock Dam. Above New Melones Dam are Beardsley, Spicer, and Donnell dams.

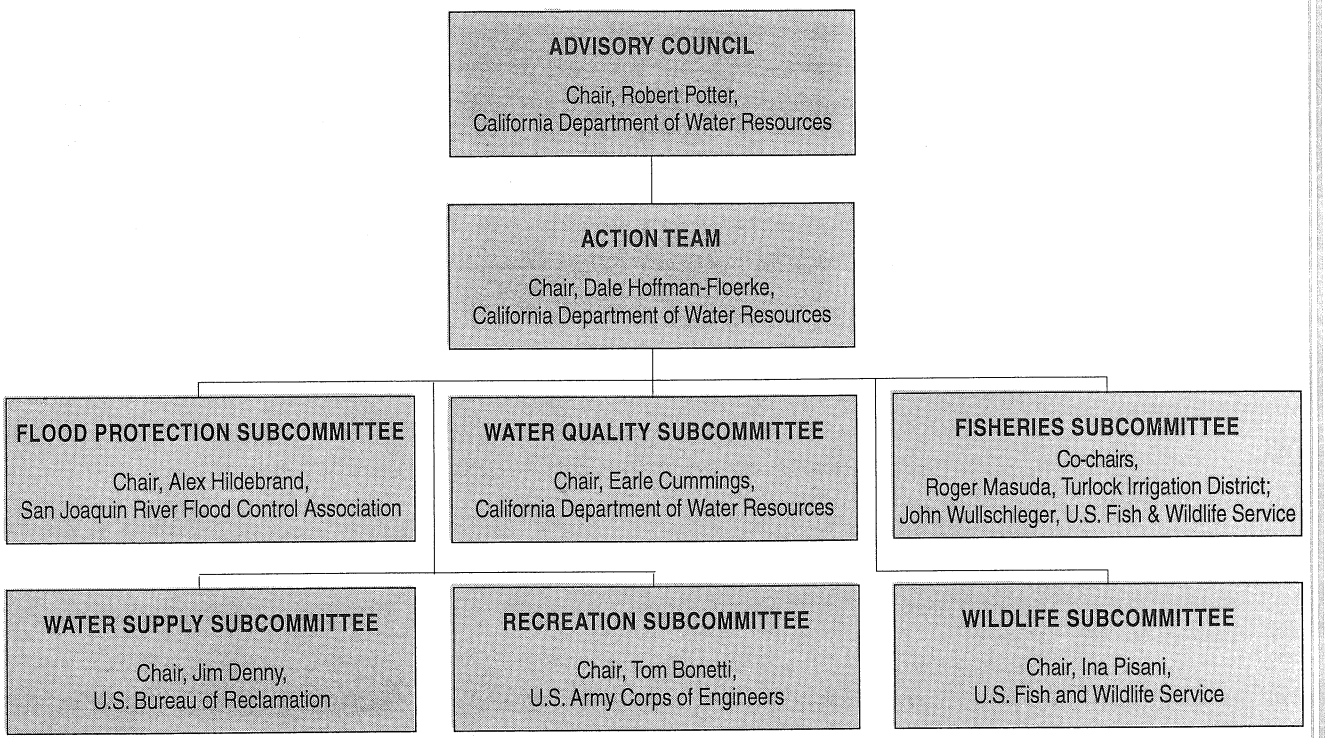
The Kings River contributes to the San Joaquin River system only during extremely wet water years. Floodwaters flow to the North Fork Kings River (also known as Fresno Slough) then north to the San Joaquin River.

San Joaquin River Management Program

The San Joaquin River Management Program was authorized by Assembly Bill 3603 (Appendix A), which the Governor signed on September 18, 1990. The bill specifically authorized an Advisory Council and an Action Team. In addition to the director or designee of a number of State and Federal agencies, the Advisory Council includes representatives from counties and cities in the area; water user interests; and environmental, fisheries, and wildlife groups. Members of the Action Team are appointed by the Advisory Council. Action Team subcommittees were formed in accordance with the legislation, based on specific problem areas: flood protection, water supply, water quality, recreation, fisheries, and wildlife. Figure 2 shows the organization of the San Joaquin River Management Program.

The Advisory Council provides guidance and direction to the Action Team and comments on letters and documents submitted by the subcommittees and the Action Team. The Advisory Council also approves recommendations of the Action Team and subcommittees and forwards them to appropriate agencies.

Figure 2
ORGANIZATION, SAN JOAQUIN RIVER MANAGEMENT PROGRAM



The Advisory Council meets monthly, primarily in Sacramento County; at least one meeting each year is held in another county in the study area. During the meetings, participants present concerns and issues that affect the San Joaquin River system. Those who attend are encouraged to participate in developing solutions. Decisions are made by consensus.

The Action Team coordinates activities of the six subcommittees and provides a forum for their interaction. Action Team proposals are brought to the Advisory Council for discussion and action. The Action Team meets at least monthly with representatives of each of the subcommittees and other interested individuals.

The subcommittees focus on the six problem areas identified in the legislation: flood protection, water quality, water supply, wildlife, fisheries, and recreation. The subcommittees have identified and defined actions recommended in this report.

Assembly Bill 3048 (Appendix B) was signed into law on September 15, 1994, to implement the San Joaquin River Management Plan. Under AB 3048, the Advisory Council will coordinate and facilitate implementation of actions recommended in this report.

Cooperation Among State and Federal Agencies

A memorandum of agreement for cost-sharing between the U.S. Bureau of Reclamation and The Resources Agency, signed in November 1991, provides in-kind State services to the Bureau to assist in its San Joaquin River Basin Resource Management Initiative; the Bureau actively participates in the San Joaquin River Management Program and provides funding for the U.S. Fish and Wildlife Service to participate in both programs. The San Joaquin River Basin Resource Management Initiative is an integral part of and fully coordinated with the San Joaquin River Management Program.

Objectives of the San Joaquin River Basin Resource Management Initiative were folded into the Central Valley Project Improvement Act[1], which became law in October 1992. The CVPIA includes development of a comprehensive plan to address fish and wildlife habitat concerns on the San Joaquin River. The plan is to be completed by September 30, 1996.

The San Joaquin River Management Program is also coordinated with the San Joaquin River Mainstem Reconnaissance Study of the U.S. Army Corps of Engineers.

Bureau of Reclamation and Corps of Engineers representatives on the Advisory Council provide regular updates on their programs. This allows other Management Program participants to help the Corps and the Bureau direct their studies and prevents duplication.

One problem encountered involves the institutional difficulty of actually implementing a project with multiple objectives and, thus, multi-agency responsibility. For instance, if a project recommended by the San Joaquin River Management Program for implementation would benefit both wildlife and flood protection, it would likely require joint leadership of two or more agencies — in this example, the Department of Fish and Game, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers. There appears to be no institutional process to successfully implement this type of project. Establishing a special district or authority with responsibility to implement such projects is something the San Joaquin River Management Program will explore.

1 PL 102-575, Title XXXIV.

Developing the San Joaquin River Management Plan

Before AB 3603 was enacted, a group calling itself the "San Joaquin River Task Force" met informally for about a year. Its function was to educate interested parties on the condition of the San Joaquin River Basin. This same group became the Advisory Council.

At the same time, a smaller, staff-level group was formed specifically to identify problems in the San Joaquin Basin and begin looking for solutions. This group later became the Action Team. Action Team subcommittees were formed to focus on flood protection, water supply, water quality, recreation, fisheries, and wildlife. Members were knowledgeable people willing to volunteer their time to help resolve some of the problems facing the San Joaquin.

First the Action Team and subcommittees identified the beneficial uses of the San Joaquin River system. Next they determined the most significant problems, by river reach and tributary. This initial information was developed in an open forum and agreed to by all in attendance. After refinement, the preliminary information was presented to the Advisory Council for consensus. From there, the Action Team and subcommittees set about developing specific actions that would help restore the San Joaquin River system.

Each subcommittee presented its action items with as much information as available. Each action item was reviewed by all the subcommittees, with final review by the Action Team. At this stage, consensus again came into play. Not every proposed action met with approval by all subcommittees. Some items might have been beneficial to one area of concern but detrimental to another. When concerns arose, an extensive discussion usually ensued and the proposal was rewritten. Items with potential for conflict were identified and possible resolutions suggested.

In some cases, a subcommittee focused on a specific species or issue that provides surrogate protection for many other species. The Fisheries subcommittee focus on salmon restoration was driven by the seriously low population numbers and the benefit of improvement measures to many other resources in the system.

The Action Team tried to assign priorities to its recommendations. After many hours of discussion on how to give equal weight to all subcommittees, the team determined that assigning priorities was not feasible. The result is three alphabetical lists of recommended projects, studies, and acquisitions that, if implemented, will improve conditions in and along the San Joaquin River and its tributaries.

Some recommended actions could be implemented without waiting for a final plan. When there was an opportunity and willing parties to take action, the decision was made not to let a project wait. Several such projects are identified in this report, including the status of each and a recommendation with regard to its continuation.

Possible Funding Sources

Funding is necessary to undertake the action items and to pay for operation and maintenance of developed projects. Volunteer efforts of local citizens, special interest groups, environmental organizations, schools, and civic groups can help restore, enhance, and maintain sites and facilities. These volunteers represent a significant work force that can be used as matching services for some grant programs. They should not be overlooked.

This section identifies sources that may be available now or in the future to fund projects, studies, and acquisitions recommended in this plan. This is only an example of sources and should by no means be considered a comprehensive or exhaustive list.

Existing Funding Sources

California Wildlife, Coastal and Parks Initiative (Proposition 70). This program, administered by the Wildlife Conservation Board, provides funds for acquisition, enhancement, restoration, or protection of lands, wetlands, and aquatic habitat.

Central Valley Project Improvement Act. The CVPIA requires the Department of the Interior to identify measures that can be implemented to improve conditions for fish and wildlife in the Central Valley, including the San Joaquin Basin. Many items will require non-Federal cost-sharing, as described in the CVPIA *Sharing of Costs Agreement for Mitigation Projects and Improvements*.

Delta Pumps Fish Protection Agreement. This agreement to mitigate for fish losses at the State Water Project's Banks Pumping Plant is administered jointly by the Department of Water Resources and Department of Fish and Game. The program provides funds from the State Water Project Contractors for restoration projects throughout the Central Valley. An advisory panel reviews eligible projects and recommends funding. Priority is given to San Joaquin Basin projects.

Environmental Restoration (Section 1135). Through the U.S. Army Corps of Engineers, this program provides money for environmental restoration projects that improve conditions or correct problems that result from a Corps project. The program requires non-Federal matching funds, but land value can be used as part of the non-Federal share. Up to $2 million annually per project can be appropriated.

Salmon Stamp Funds. Stamp funds, derived from the commercial catch of salmon, are administered by the Commercial Salmon Stamp Advisory Committee.

Sport Fish Restoration Program. In California, projects under this Federal program are administered by the Department of Fish and Game after evaluation and approval by the U.S. Fish and Wildlife Service. Anglers and boaters pay a user fee on fishing tackle and boat fuel, and import duties are imposed on tackle and boats. The money is used for sport fishery restoration and enhancement.

Tracy Pumps Mitigation Agreement. Agreement to implement measures to reduce and offset or replace direct losses of Chinook salmon and striped bass in the Delta caused by the diversion of water at the Tracy Pumping Plant. The U.S. Bureau of Reclamation will provide $870,000 for fiscal years 1995 through 1997 and a lump sum of $2.7 million to the Department of Fish and Game by the end of fiscal year 1995 to accelerate mutually agreed-upon programs.

Urban Stream Restoration Program. Under this program, the Department of Water Resources grants money for stream restoration projects.

Potential New Funding Sources

Legislative or Congressional Appropriation. Some actions could be funded by legislative or congressional authority. A package of related projects could be presented that could be funded through appropriations or specific legislation. Several State and Federal agencies, such as The Reclamation Board and the U.S. Army Corps of Engineers, could jointly recommend funding for reconnaissance and feasibility studies within the scope of their authority.

New Bond Acts. The legislature, special interest groups, or voter initiatives could propose new bond acts. Recent bond acts have not been successful but have been approved by voters in the past.

Conclusions and Recommendations

Recommendations of the San Joaquin River Management Program fall into three categories: projects, studies, and acquisitions. In addition, the Advisory Council has written letters supporting some actions already being implemented. Recommended projects, studies, and acquisitions are discussed in alphabetical order. No order of priority is intended. Potential benefits, conflicts, and resolutions; estimated costs and possible funding sources; and required legislation and environmental documentation have been identified when possible. Copies of the letters of support are presented in chronological order.

To stem the degradation in many reaches of the San Joaquin River system, the Advisory Council urges immediate implementation of as many of the action items as possible. It is the intent of the Advisory Council that all the actions be considered for implementation and that related actions be packaged when feasible to increase synergism and the overall benefit. Although not all actions can be undertaken immediately, ignoring the situation will result in continued decline in the health of the San Joaquin River system. That is simply not acceptable.

The Advisory Council recommends continued cooperation among users, regulatory agencies, and others who may be affected by the San Joaquin River Management Program. Coordination must be open and based on trust if proposals are to be implemented. In addition, coordination with agencies having legislative mandates to improve the San Joaquin River system will avoid duplication and provide for efficient implementation of recommended projects and studies.

The San Joaquin River Management Program will continue to coordinate with the Central Valley Project Improvement Act. Many of the recommendations will likely be included in the CVPIA Comprehensive Plan and Anadromous Fisheries Doubling Plan. Working together will avoid duplication and facilitate effective restoration of the San Joaquin River system.

The Advisory Council recommends passage of legislation to provide for continued examination and modification of the recommended actions to improve and enhance the San Joaquin River system to the benefit of all legitimate users.